Xinbing Zhao

List of Publications by Citations

74 papers	6,790 citations	38 h-index	74 g-index
74 ext. papers	8,029 ext. citations	12.7 avg, IF	6.18 L-index

#	Paper	IF	Citations
74	Compromise and Synergy in High-Efficiency Thermoelectric Materials. *Advanced Materials*, **2017**, 29, 1605884	24	742
73	Realizing high figure of merit in heavy-band p-type half-Heusler thermoelectric materials. *Nature Communications*, **2015**, 6, 8144	17.4	658
72	Point Defect Engineering of High-Performance Bismuth-Telluride-Based Thermoelectric Materials. *Advanced Functional Materials*, **2014**, 24, 5211-5218	15.6	469
71	Band engineering of high performance p-type FeNbSb based half-Heusler thermoelectric materials for figure of merit zT > 1. *Energy and Environmental Science*, **2015**, 8, 216-220	35.4	368
70	Beneficial Contribution of Alloy Disorder to Electron and Phonon Transport in Half-Heusler Thermoelectric Materials. *Advanced Functional Materials*, **2013**, 23, 5123-5130	15.6	290
69	Tuning Multiscale Microstructures to Enhance Thermoelectric Performance of n-Type Bismuth-Telluride-Based Solid Solutions. *Advanced Energy Materials*, **2015**, 5, 1500411	21.8	287
68	High Efficiency Half-Heusler Thermoelectric Materials for Energy Harvesting. *Advanced Energy Materials*, **2015**, 5, 1500588	21.8	279
67	Shifting up the optimum figure of merit of p-type bismuth telluride-based thermoelectric materials for power generation by suppressing intrinsic conduction. *NPG Asia Materials*, **2014**, 6, e88-e88	10.3	234
66	New Insights into Intrinsic Point Defects in V2VI3 Thermoelectric Materials. *Advanced Science*, **2016**, 3, 1600004	15.8	218
65	Recent Advances in Inorganic Solid Electrolytes for Lithium Batteries. *Frontiers in Energy Research*, **2014**, 2,	3.8	205
64	High Band Degeneracy Contributes to High Thermoelectric Performance in p-Type Half-Heusler Compounds. *Advanced Energy Materials*, **2014**, 4, 1400600	21.8	198
63	Low Electron Scattering Potentials in High Performance Mg2Si0.45Sn0.55 Based Thermoelectric Solid Solutions with Band Convergence. *Advanced Energy Materials*, **2013**, 3, 1238-1244	21.8	186
62	The intrinsic disorder related alloy scattering in ZrNiSn half-Heusler thermoelectric materials. *Scientific Reports*, **2014**, 4, 6888	4.9	161
61	Hierarchical Chemical Bonds Contributing to the Intrinsically Low Thermal Conductivity in □MgAgSb Thermoelectric Materials. *Advanced Functional Materials*, **2017**, 27, 1604145	15.6	154
60	Recrystallization induced in situ nanostructures in bulk bismuth antimony tellurides: a simple top down route and improved thermoelectric properties. *Energy and Environmental Science*, **2010**, 3, 1519	35.4	153
59	Direct Growth of Flower-Like □MnO2 on Three-Dimensional Graphene for High-Performance Rechargeable Li-O2 Batteries. *Advanced Energy Materials*, **2014**, 4, 1301960	21.8	139
58	Unique Role of Refractory Ta Alloying in Enhancing the Figure of Merit of NbFeSb Thermoelectric Materials. *Advanced Energy Materials*, **2018**, 8, 1701313	21.8	128

57	Enhancing the Figure of Merit of Heavy-Band Thermoelectric Materials Through Hierarchical Phonon Scattering. *Advanced Science*, **2016**, 3, 1600035	13.6	106
56	Demonstration of a phonon-glass electron-crystal strategy in (Hf,Zr)NiSn half-Heusler thermoelectric materials by alloying. *Journal of Materials Chemistry A*, **2015**, 3, 22716-22722	13	101
55	High Performance MgAgSb Thermoelectric Materials for Low Temperature Power Generation. *Chemistry of Materials*, **2015**, 27, 909-913	9.6	98
54	Enhancement in thermoelectric performance of bismuth telluride based alloys by multi-scale microstructural effects. *Journal of Materials Chemistry*, **2012**, 22, 16484		97
53	Attaining high mid-temperature performance in (Bi,Sb)2Te3 thermoelectric materials via synergistic optimization. *NPG Asia Materials*, **2016**, 8, e302-e302	10.3	96
52	Hot deformation induced bulk nanostructuring of unidirectionally grown p-type (Bi,Sb)2Te3 thermoelectric materials. *Journal of Materials Chemistry A*, **2013**, 1, 11589	13	86
51	Mg vacancy and dislocation strains as strong phonon scatterers in Mg 2 Si 1 Sb x thermoelectric materials. *Nano Energy*, **2017**, 34, 428-436	17.1	85
50	Enhanced Thermoelectric Performance in 18-Electron Nb0.8CoSb Half-Heusler Compound with Intrinsic Nb Vacancies. *Advanced Functional Materials*, **2018**, 28, 1705845	15.6	79
49	Lanthanide Contraction as a Design Factor for High-Performance Half-Heusler Thermoelectric Materials. *Advanced Materials*, **2018**, 30, e1800881	24	66
48	Tips-Bundled Pt/Co3O4 Nanowires with Directed Peripheral Growth of Li2O2 as Efficient Binder/Carbon-Free Catalytic Cathode for Lithium Oxygen Battery. *ACS Catalysis*, **2015**, 5, 241-245	13.1	63
47	Enhancing room temperature thermoelectric performance of n -type polycrystalline bismuth-telluride-based alloys via Ag doping and hot deformation. *Materials Today Physics*, **2017**, 2, 62-68	8	51
46	Grain Boundary Scattering of Charge Transport in n-Type (Hf,Zr)CoSb Half-Heusler Thermoelectric Materials. *Advanced Energy Materials*, **2019**, 9, 1803447	21.8	51
45	Short-range order in defective half-Heusler thermoelectric crystals. *Energy and Environmental Science*, **2019**, 12, 1568-1574	35.4	51
44	High performance n-type bismuth telluride based alloys for mid-temperature power generation. *Journal of Materials Chemistry C*, **2015**, 3, 10597-10603	7.1	48
43	Reduced Grain Size and Improved Thermoelectric Properties of Melt Spun (Hf,Zr)NiSn Half-Heusler Alloys. *Journal of Electronic Materials*, **2010**, 39, 2008-2012	1.9	48
42	Mushroom-like Au/NiCo2O4 nanohybrids as high-performance binder-free catalytic cathodes for lithium oxygen batteries. *Journal of Materials Chemistry A*, **2015**, 3, 5714-5721	13	47
41	High performance p-type half-Heusler thermoelectric materials. *Journal Physics D: Applied Physics*, **2018**, 51, 113001	3	44
40	Electron and phonon transport in Co-doped FeV0.6Nb0.4Sb half-Heusler thermoelectric materials. *Journal of Applied Physics*, **2013**, 114, 134905	2.5	42

39	Half-Heusler Thermoelectric Module with High Conversion Efficiency and High Power Density. *Advanced Energy Materials*, **2020**, 10, 2000888	21.8	40
38	Liquid-Phase Hot Deformation to Enhance Thermoelectric Performance of n-type Bismuth-Telluride-Based Solid Solutions. *Advanced Science*, **2019**, 6, 1901702	13.6	39
37	Graphene-like MnO2 decorated with ultrafine CeO2 as a highly efficient catalyst for long-life lithiumoxygen batteries. *Journal of Materials Chemistry A*, **2017**, 5, 6747-6755	13	38
36	Understanding Moisture and Carbon Dioxide Involved Interfacial Reactions on Electrochemical Performance of Lithium-Air Batteries Catalyzed by Gold/Manganese-Dioxide. *ACS Applied Materials & Interfaces*, **2015**, 7, 23876-84	9.5	37
35	Nanostructured porous RuO2/MnO2 as a highly efficient catalyst for high-rate Li-O2 batteries. *Nanoscale*, **2015**, 7, 20614-24	7.7	34
34	High-Performance Li-O Batteries with Controlled LiO Growth in Graphene/Au-Nanoparticles/Au-Nanosheets Sandwich. *Advanced Science*, **2016**, 3, 1500339	13.6	34
33	Revealing the Intrinsic Electronic Structure of 3D Half-Heusler Thermoelectric Materials by Angle-Resolved Photoemission Spectroscopy. *Advanced Science*, **2020**, 7, 1902409	13.6	31
32	Na-Rich Prussian White Cathodes for Long-Life Sodium-Ion Batteries. *ACS Sustainable Chemistry and Engineering*, **2018**, 6, 16121-16129	8.3	31
31	High-Performance MgSb Bi Thermoelectrics: Progress and Perspective. *Research*, **2020**, 2020, 1934848	7.8	30
30	Potassium manganese hexacyanoferrate/graphene as a high-performance cathode for potassium-ion batteries. *New Journal of Chemistry*, **2019**, 43, 11618-11625	3.6	29
29	Thermoelectric properties of n-type half-Heusler NbCoSn with heavy-element Pt substitution. *Journal of Materials Chemistry A*, **2020**, 8, 14822-14828	13	24
28	AMgBi (A = Ca, Sr, Eu): Magnesium Bismuth Based Zintl Phases as Potential Thermoelectric Materials. *Inorganic Chemistry*, **2017**, 56, 10576-10583	5.1	23
27	Highly-efficient MnO 2 /carbon array-type catalytic cathode enabling confined Li 2 O 2 growth for long-life Li O 2 batteries. *Energy Storage Materials*, **2017**, 6, 164-170	19.4	23
26	Two-dimensional IrO2/MnO2 enabling conformal growth of amorphous Li2O2 for high-performance Li O2 batteries. *Energy Storage Materials*, **2017**, 9, 206-213	19.4	20
25	Realizing discrete growth of thin Li2O2 sheets on black phosphorus quantum dots-decorated MnO2catalyst for long-life lithiumoxygen cells. *Energy Storage Materials*, **2019**, 23, 684-692	19.4	17
24	Ni3S2 nanosheet-anchored carbon submicron tube arrays as high-performance binder-free anodes for Na-ion batteries. *Inorganic Chemistry Frontiers*, **2017**, 4, 131-138	6.8	17
23	Tunable Optimum Temperature Range of High-Performance Zone Melted Bismuth-Telluride-Based Solid Solutions. *Crystal Growth and Design*, **2018**, 18, 4646-4652	3.5	17
22	Demonstration of valley anisotropy utilized to enhance the thermoelectric power factor. *Nature Communications*, **2021**, 12, 5408	17.4	17

21	NiCo2O4/MnO2 core/shell arrays as a binder-free catalytic cathode for high-performance lithium□oxygen cells. *Inorganic Chemistry Frontiers*, **2018**, 5, 1707-1713	6.8	16
20	Defect modulation on CaZn1□Ag1□Sb (0 Journal of Materials Chemistry A, **2018**, 6, 11773-11782	13	16
19	Enhancing the average thermoelectric figure of merit of elemental Te by suppressing grain boundary scattering. *Journal of Materials Chemistry A*, **2020**, 8, 8455-8461	13	15
18	The effect of texture degree on the anisotropic thermoelectric properties of (Bi,Sb)2(Te,Se)3 based solid solutions. *RSC Advances*, **2016**, 6, 98646-98651	3.7	15
17	Stable cycling of a Prussian blue-based Na/Zn hybrid battery in aqueous electrolyte with a wide electrochemical window. *New Journal of Chemistry*, **2020**, 44, 4639-4646	3.6	14
16	Half-Heusler thermoelectric materials. *Applied Physics Letters*, **2021**, 118, 140503	3.4	13
15	Manganese hexacyanoferrate/graphene cathodes for sodium-ion batteries with superior rate capability and ultralong cycle life. *Inorganic Chemistry Frontiers*, **2018**, 5, 2914-2920	6.8	12
14	Scattering Mechanisms and Compositional Optimization of High-Performance Elemental Te as a Thermoelectric Material. *Advanced Electronic Materials*, **2020**, 6, 2000038	6.4	10
13	Carrier Grain Boundary Scattering in Thermoelectric Materials. *Energy and Environmental Science*,	35.4	10
12	Enhancing the room temperature thermoelectric performance of n-type Bismuth-telluride-based polycrystalline materials by low-angle grain boundaries. *Materials Today Physics*, **2022**, 22, 100573	8	8
11	Trace fluorinated-carbon-nanotube-induced lithium dendrite elimination for high-performance lithium-oxygen cells. *Nanoscale*, **2020**, 12, 3424-3434	7.7	6
10	Electrochemical Compatibility of Solid-State Electrolytes with Cathodes and Anodes for All-Solid-State Lithium Batteries: A Review. *Advanced Energy and Sustainability Research*, **2021**, 2, 2000101	4.6	4
9	Long-life Na-rich nickel hexacyanoferrate capable of working under stringent conditions. *Journal of Materials Chemistry A*, **2021**, 9, 21228-21240	13	4
8	Nonflammable quasi-solid-state electrolyte for stable lithium-metal batteries.. *RSC Advances*, **2019**, 9, 42183-42193	3.7	3
7	Two-dimensional lithiophilic YF□enabled lithium dendrite removal for quasi-solid-state lithium batteries. *Journal of Materiomics*, **2021**, 7, 355-365	6.7	3
6	Low-cost and long-life Zn/Prussian blue battery using a water-in-ethanol electrolyte with a normal salt concentration. *Energy Storage Materials*, **2022**, 48, 192-204	19.4	3
5	Defect control in Ca1□Ce□Ag1□Sb (□0.15) through Nb doping. *Inorganic Chemistry Frontiers*, **2017**, 4, 1113-1119	6.8	2
4	Tiny amounts of fluorinated carbon nanotubes remove sodium dendrites for high-performance sodium□oxygen batteries. *Sustainable Energy and Fuels*, **2020**, 4, 4108-4116	5.8	2

3	Lithiated carbon cloth as a dendrite-free anode for high-performance lithium batteries. *Sustainable Energy and Fuels*, **2020**, 4, 5773-5782	5.8	2
2	Stable cycling of Prussian blue/Zn battery in a nonflammable aqueous/organic hybrid electrolyte.. *RSC Advances*, **2021**, 11, 30383-30391	3.7	2
1	Ionic liquid/ether-plasticized quasi-solid-state electrolytes for long-life lithium–oxygen cells. *New Journal of Chemistry*, **2018**, 42, 19521-19527	3.6	1